

REMARKS

A. OVERVIEW

Claims 1-52 are pending in the present application. The Office Action has been carefully reviewed. The present response is an earnest effort to place the application in form for allowance. Reconsideration is respectfully requested.

B. REQUEST FOR CLARIFICATION

The sole remaining rejection in the application is obviousness. The Office Action provides specific § 103 obviousness rejections to claims 1-24 and 27-52. No specific obviousness rejection was found to claims 25 and 26. Clarification is respectfully requested whether these claims have overcome any rejections and are allowable.

C. §103 REJECTION

Claims 1-24 and 27-52 stand rejected as obvious under 35 U.S.C. § 103. The new rejection cites a combination of previously cited Whitten U.S. Patent 6,732,014 in view of newly cited Balch U.S. Patent 5,113,130. This rejection is respectfully traversed.

It is respectfully submitted that the combination of Whitten and Balch does not present a *prima facie* case of obviousness for at least the following reasons.

Under § 103, the claim as a whole is evaluated. Obviousness cannot be shown by selecting individual claim limitations from the state-of-the-art independently. As pointed out in prior responses, Applicant's claims set forth a combination of features neither disclosed nor suggested in Whitten. Likewise they are neither disclosed nor suggested in the combination of Whitten and Balch. Whitten proposes sensing passage of a vended product across a horizontal

plane by plural sets of emitter detector pairs across opposite margins of that plane. They are spaced sufficiently close that even small objects (or thin objects) would likely be detected by one of the "jail bar" type beams. Whitten does discuss an embodiment where detectors on opposite sides of the main aligned detector may also be enabled during the "on" time of the emitter. But the concept is still one emitter matched with between 1 and 3 detectors directly across from it so that a sequence of "jail-bar" type beams monitor the dropping of a vendable product across the plane. This, of course, means that Whitten intentionally operates one emitter at a time, and that the between 1 and 3 detectors directly across from it are looking for that one emitter at that time. The corollary to this is that the emitter/detector sets act as separate sets during each scanning cycle. As pointed out in the prior response, Whitten, column 6, lines 9-19 requires its system to "monitor each of the emitter/detector sets separately because of the potential for light bleed-over from adjacent emitters." Thus, it is respectfully traversed that Whitten discloses, teaches, or suggests monitoring all detectors for each emitter on time. In fact, Whitten goes in a different direction. Moreover, as disclosed in Applicant's specification, the combination of features of Applicant's claims cooperate in a manner not disclosed or suggested in Whitten. It is re-emphasized that Applicant's claim 1, for example, holds all emitters "off" for a short period of time on each scan of the vending area. See step c of Applicant's claim 1. Step e of Applicant's claim 1 repeats steps c and d for each other emitter. This tests the correct operation of the detectors. If any of the entire set of detectors "sees" any of the entire set of emitters during that time, this is indicative of an error condition. Whitten does not speak to that combination of features. This happens every cycle of the emitter scans for Applicant's claim 1. Thus, the detectors are virtually continuously monitored for correct operation. This is in combination with another feature of claim 1, namely every time an emitter is "on", all detectors are monitored. If

all detectors do not "see" the emitter, the process assumes one has been blocked by a vended product which is indicative of a successful vend. Whitten only watches one to three detectors directly across from an emitter and specifically does not monitor any other detectors.

Again, see Whitten, col. 6, lines 9-19. Instead of the "jail bar" technique of Whitten, Applicant's claim 1 intentionally provides a beam spread for each emitter which covers each detector of the set of detectors, and each detector has a viewing angle which includes each emitter of the set of emitters. Applicant's specification in detail describes how this operates. Thus, the interdependency of the plurality of features of Applicant's claim 1 is not disclosed, taught or suggested in Whitten. The addition of Balch does not fill the gap in the lack of teaching in Whitten. Balch is similar to Whitten in that it has matched pairs of a single emitter and a single detector right across from one another. Balch checks its emitter operation by monitoring voltage of the emitters. It does try to detect tampering by monitoring detectors before its light emitters are turned on. It is looking to see if someone is shining inappropriately light on the detectors before it starts its normal emitter and detector monitoring program. Balch has no teaching or disclosure of multiple detectors monitoring each emitter or each emitter having a beam angle that includes all detectors. Balch does not disclose or teach holding all emitters off and monitoring all detectors in between each emitter "on" time. In fact, Balch does not appear to disclose or teach any specific checking of detector operation. Thus, the inter-dependability of features of Applicant's claim 1 are neither disclosed nor taught by Whitten or Balch, or a combination of the two. Applicant's other independent claims 20, 30, and 50 have similar differences between Whitten and Balch.

Secondly, Whitten and Balch teach away from the Applicant's claims. As described above, Whitten intentionally tries the "jail bar" technique of having matched emitter/detector

pairs directly across from one another. Each pair is fired very quickly so that the "jail bars" are scanned in a fraction of a second across the whole plane. As described in Whitten, Whitten tries to create a type of "light curtain". However, as cited above, the technique is to fire an emitter and then look at whether a detector right across from it (or a subset of one to three detectors right across from it) "see" that emitter. Whitten intentionally uses techniques such that it does not monitor the other detectors during that time. Those detectors wait until their matched emitters are on. Applicant's claims describe a different paradigm of both checking all detectors between each emitter "on" time and then looking at all detectors when each emitter is on.

Balch turns both of its emitters on at the same time. It then pulses those emitters during its monitoring program. Balch does discuss an initialization where it looks at detectors when both emitters are on. But it does not follow Applicant's claim 1 which checks all detectors between each emitter on and off time. Balch is looking for tampering. See Balch specification. There is no disclosure discussing testing of detector operation.

It is therefore respectfully submitted that the claims, as pending previously, are not obvious in light of Whitten, Balch, or a combination of the two.

However, to emphasize the differences described above, Applicant's independent claims have been amended. For example, claim 1 emphasizes that each emitter has a beam spread and each detector a viewing angle. Support can be found at least at Applicant's specification page 14, line 13, page 32, lines 22-23, and page 33, line 5. Additionally, claim 1 points out that all detectors of the set of detectors are in the beam spread of each emitter and each detector viewing angle includes each emitter of the set of emitters. This clearly differentiates with Whitten. Whitten's emitters operate with a subset of one to three detectors. Whitten does not teach each emitter having a beam spread including all detectors. Whitten does not teach each detector

having a viewing angle including all emitters. The fact that Whitten might have plural detectors monitoring a single emitter does not teach or render obvious Applicant's claims. There is no support for the Examiner's allegation that Applicant's claims involve simply a scaling up of Whitten. Whitten teaches away from this. As described above, it limits the number of detectors that monitor a single emitter. Similarly, Whitten specifically teaches away from each detector viewing angle including all emitters. As described above, Balch does not teach these limitations.

Applicant's independent claims 20, 30, 40 and 50 have similar limitations. It is therefore respectfully submitted that all claims pending in the application are not obvious in light of Whitten and Balch for the reasons expressed above. The dependent claims are submitted to be allowable for the reasons expressed in support of the independent claims.

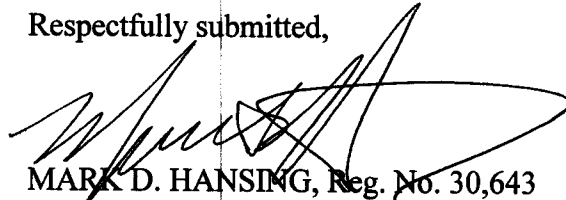
CONCLUSION

It is respectfully submitted that all matters raised by the Office Action have been addressed and remedied and at that the application is in form for allowance. Favorable action is respectfully requested.

Please consider this a Request for Two-Month Extension of Time from February 20, 2008 to April 20, 2008 and charge Deposit Account No. 26-0084 the amount of \$230.00 for this extension. No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension

inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark D. Hansing', is written over the typed name and firm name.

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